

Remarks

As a preliminary point, the Applicant would like to remark that quite small differences between one golf club and another can have a significant effect on a golfer's ability to hit a golf ball and achieve a desired distance and accuracy. These differences can include club length, club head weight, lie angle, loft angle, the location of the center of gravity, and other factors. Beyond merely designing a single club so that it achieves a desired result, the greater goal is to design a set of golf clubs that allow a golfer to use a consistent swing regardless of the club being used, yet achieve the desired performance results. Given the large number of factors which can be varied, and the range of variability, the choice of a particular set of dimensions and variances for a set of golf clubs is virtually infinite. Any resulting selection of design parameters is more than a mere design selection, and involves a considerable amount of theoretical application and testing to verify that the resultant club or set of clubs achieves the desired results. The large number of issued patents claiming small differences in golf club designs, both in individual clubs and in sets of clubs, attests to the non-obviousness of these differences. The Applicant believes that the set of parameters he has identified by virtue of the claims in the instant patent application result in a novel, non-obvious set of golf clubs which achieve a particular beneficial result for golfers using the club set. Against this background, the Applicant respectfully requests that the Examiner please consider carefully the following arguments in favor of allowing the claims as presented and amended.

Rejection of claims under 35 U.S.C. § 102.

(Ref. paragraph number 2 of the office action.) Claims 1-9, 15-17 and 18-19 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Kajita et al. (U.S. Patent No. 4,840,380).

As a starting point, The PTO and the Federal Circuit provide that §102 anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. (*In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990).) The corollary of this rule is that the absence from a cited §102 reference of any claimed element negates the anticipation. (*Kloster Speedsteel AB, et al v. Crucible, Inc., et al*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986).) Further, "[a]nticipation requires that all of the elements and limitations of the claims are found within a single prior art reference." (*Scripps Clinic and Research Found. v Genetech. Inc.*, 927 F.2d 1565, 1576, 18 U.S.P.Q.2d 1001, 1010 (Fed. Cir. 1991 (emphasis added))). Accordingly, if the Applicant can demonstrate that the cited '380 patent (Kajita et al.) does not disclose any one claimed element or limitation with respect to the Applicant's claims, then the §102(b) rejection must be withdrawn with respect to those claims. Further, the PTO and the Federal Circuit provide that §102 anticipation requires that there must be no difference between the claimed invention and the reference disclosure. (*Scripps Clinic and Research Found. v. Genetech, Inc.*, id. (emphasis added).)

The Applicant respectfully disagrees that claims 1-9 and 15-19 are anticipated by Kajita et al. Kajita et al. describe a set of golf clubs having a constant rate of decrease in club length over the entire set (see Kajita Fig. 3 and

1 column 3, lines 22-24). Kajita provides several examples to demonstrate this  
2 invention. Specifically:

3 1) One set of Kajita's clubs described in Fig. 3 includes 11 clubs having  
4 an overall decrease in club length between the first club and the last  
5 club of 19 cm. This overall decrease in length is evenly divided  
6 between the clubs such that the club-to-club length decrease between  
7 adjacent clubs is constant at a rate of 2 cm (0.75 inches).

8 2) At column 3, lines 11-21 Kajita et al. show a set of 11 clubs having  
9 a drop of 20 cm applied evenly over the entire set, for a constant rate  
10 of decrease of 0.79 inches between adjacent clubs.

11 3) At column 3, lines 30-33 Kajita et al. describe a set of 11 clubs  
12 having a drop of 16.5 cm applied evenly over the entire set, for a  
13 constant rate of decrease of 0.59 inches between adjacent clubs.

14 4) At column 3, lines 33-34 Kajita et al. describe a set of 5 clubs  
15 having a drop of 12 cm applied evenly over the entire set, and a six club  
16 set having a drop of 15 cm applied evenly over the entire set, for a  
17 constant rate of decrease of 1.18 inches between adjacent clubs.

18 It is important to note that Kajita et al. do not focus on the club-to-club  
19 length variance, but on a constant rate of club length decrease over the entire  
20 set, from the first club through the last club. Further, the club-to-club variance  
21 is closely tied to the number of clubs in the set. Kajita et al. state at column 3,  
lines 30-34, "when the decreasing rate of the club length between the adjoining  
clubs from club No. C1 to club No. C11 is about 15 cm, the continuous set

1 comprises 12 clubs, while when it is 30 mm, the continuous set comprises 5  
2 to 6 clubs." Accordingly, Kajita et al. make it clear that the club-to-club length  
3 decrease is a function of the number of clubs in the set (i.e.,  $\Delta L = f(1/N)$ ,  
4 where  $\Delta L$  is the club-to-club rate of length variance, and N is the number of  
5 clubs in the set). When the (constant) club-to-club length variance increases,  
6 then the number of clubs in the set decreases. Thus, one cannot merely look  
7 at the club-to-club length decreases disclosed by Kajita et al., but must also  
8 associate those disclosed rates of decreases with clubs sets having specific  
9 numbers of clubs in the sets.

10 To summarize the examples disclosed by Kajita et al. (described above), the  
11 sets include:

- 12 1) 11 clubs; 0.75 inches between clubs (constant);
- 13 2) 11 clubs; 0.79 inches between clubs (constant);
- 14 3) 11 clubs; 0.59 inches between clubs (constant);
- 15 4) 5 clubs; 1.18 inches between clubs (constant); and
- 16 5) 6 clubs; 1.18 inches between clubs (constant).

17 When these figures are normalized to a 12 club set, then Kajita et al.  
18 disclose constant rates of change in club length (i.e., between adjacent clubs  
19 in the set) of 0.49 inches to 0.72 inches per club. For a 13 club set, the rates  
20 of club length change are 0.45 to 0.66 inches per club. It is important to note  
21 that any selected rate of change in club length is applied evenly over the entire  
set in Kajita.

1 The Applicant has amended claims 1 and 15 to include the limitation that the  
2 set of clubs includes at least two adjacent clubs that do NOT vary in length by  
3 the claimed amount (i.e., 0.6 inches or more for claim 1, 1.2 inches for claim  
4 15). This is clearly shown in Tables I and II (at pages 9 and 10) of the  
5 specification, wherein in each case the difference in length between the 9-iron  
6 and the pitching wedge, and the difference in length between the pitching  
7 wedge and the sand wedge, are less than 0.6 inches (for a full set of clubs).  
8 This limitation is not shown in Kajita et al.

9 Further, the Applicant has added new claim 22 (depending from claim 1)  
10 which includes the limitation that the club set has at least 12 clubs, not  
11 including a putter. Claim 23 has been added (depending from claim 22) which  
12 specifies that the difference in club length between at least two adjacent clubs  
13 in the set is greater than 0.72 inches. Kajita et al. do not disclose a 12-club set  
14 wherein the club-to-club length variance is greater than 0.72 inches. (Please  
15 reference two paragraphs above.)

16 Accordingly, the Applicant believes that claim 1 and claims 2-9 which  
17 depend therefrom, as well as claim 15 and claims 18-19 which depend  
18 therefrom, recite novel limitations not shown by Kajita et al., and therefore  
19 respectfully request that the rejection of these claims under 35 U.S.C. 102(b)  
20 be removed.

21 (Continued on page 10.)

Rejection of claims under 35 U.S.C. § 103(a).

1) (Ref. paragraph number 4 of the office action.) Claims 1-4 and 15-17 have been rejected under 35 U.S.C. § 103(a) as being obvious over Lundberg (U.S. Patent No. 5,295,686) in view of Peters (U.S. Patent No. 6,093,112) and Adams (U.S. Patent No. 5,318,296).

As a starting point, the PTO requires that:

"[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure."

[MPEP 706.02(j); emphasis added.]

Further, the Federal Circuit requires that the claimed invention as a whole must be considered relative to the prior art in a determination of obviousness. (*Fromson v. Advance Offset Plate*, 755 F2d 1549, 1556, 225 USPQ 25, 31 (Fed. Cir. 1985); see also *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F2d 1367, 1383, 231 USPQ 81, 93 (Fed. Cir. 1986), *cert. denied*, 480 US 947 (1987)). What must be found obvious to defeat allowability of a parent claim

1 is the claimed combination. (See, *Kimberly-Clark Corp. v. Johnson & Johnson*,  
2 745 F.2d 1437, 1448, 223 USPQ 603, 609-10 (Fed. Cir. 1984). As the  
3 Federal Circuit recently stated, in inventions which are less technologically  
4 complex the danger increases that "the very ease with which the invention can  
5 be understood may prompt one to 'fall victim to the insidious effect of a  
6 hindsight syndrome wherein that which only the inventor taught is used against  
7 the teacher'". (*Ruiz v. A. B. Chance Co.*, Fed. Cir., No. 99-1557 (Dec. 6,  
8 2000), quoting *In re Dembiczak*, 175 F.3d 994, USPQ2d 1614 (Fed. Cir.  
1999).)

9 The Applicants respectfully disagree that claims 1-4 and 15-17 are obvious  
10 in light of Lundberg, Peters and Adams. Lundberg merely discloses a difference  
11 in club length of 0.5 inches (see column 4, lines 44-45), which is a length less  
12 than that disclosed by Kajita, and therefore even less relevant to the Applicant's  
13 claims than Kajita. Peters merely discloses that varying the shaft length and the  
14 lie angle of a golf club can have an effect on golf club performance (as correctly  
15 noted by the Examiner), but does not disclose any particular club length  
16 increments. Adams discloses that the inertia of a golf club head is a function  
17 of the length and weight of the club head, but does not disclose any particular  
18 length increments which produce a particularly beneficial effect. Accordingly,  
19 if these references are combined the result is a teaching that club lengths can  
20 be varied by 0.5 inches between clubs, and the lie angle and weight of a club  
21 head can be varied, to produce different performance results in a golf club. The  
latter two points are nothing more than is well known in the art. However,

1 none of these references teach or suggest using a club length increment  
2 between adjacent clubs of 0.6 inches (or 1.2 inches in a set of alternating  
3 clubs). The choice of club length increment is not merely academic or arbitrary,  
4 as demonstrated by Kajita et al. Further, none of the cited references provide  
5 a formula for determining an ideal club length increment. Thus, the Applicant's  
6 selection of the claimed club length increment involves a novel, non-obvious  
7 step over the cited references. To suggest that the claimed length increment  
8 is "obvious" in light of there references is basically to use impermissible  
hindsight reconstruction.

9 Therefore, the Applicant contends that independent claims 1 and  
10 corresponding dependent claims 2-4, as well as independent claim 15 and  
11 corresponding dependent claims 16-17 recite novel, non-obvious limitations  
12 over Lundberg, Peters and Adams. Applicant therefore respectfully requests  
13 that the rejection of claims 1-4 and 15-17 under 35 U.S.C. § 103(a) be  
14 removed and the claims allowed.

15 II) (Ref. paragraph number 5 of the office action.) Claims 5-7 have been  
16 rejected under 35 U.S.C. § 103(a) as being obvious over Lundberg (U.S. Patent  
17 No. 5,295,686) in view of Peters (U.S. Patent No. 6,093,112), Adams (U.S.  
18 Patent No. 5,318,296) and Sherwood (U.S. Patent No. 5,480,145).

19 The arguments put forth above with respect to the rejection of claims 1-4  
20 and 15-17 are incorporated herein by reference, as well as the characterization  
21



1 of the Lundberg, Peters and Adams patents. The Applicant respectfully  
2 disagrees that claims 5-7 are obvious in light of the cited references.

3 Beyond what is disclosed by Lundberg, Peters and Adams, Sherwood  
4 discloses the use of different lie angles. Contrary to what the Examiner has  
5 stated, Sherwood only discloses a difference in lie angle between clubs of 0.5  
6 degrees. Specifically, at column 4, lines 48-50 Sherwood states that the  
7 "difference between the angle of the 2 iron and the 8 iron is less than or equal  
8 to 3 degrees" (i.e., less than or equal to 0.5 degrees per club). (See also  
9 column 4, lines 59-61 (difference between 3 and 4 irons, and 4 and 5 irons is  
10 approximately 0.5 degrees), and column 4 lines 35-38 (the sum of the angle  
11 between the 3 and 4 irons and the 4 and 5 irons is less than or equal to 1  
12 degree, so the difference is less than or equal to 0.5 degree per club). Also  
13 note Table 2 (column 6), and column 8 line 54 through column 9 line 3.) The  
14 choice of a lie angle increment is not merely academic or arbitrary. Further,  
15 none of the cited references provide a formula for determining an ideal lie angle  
16 increment. Thus, the Applicant's selection of the claimed lie angle increment  
17 involves a novel, non-obvious step over the cited references. To suggest that  
18 the claimed lie angle increment is "obvious" in light of there references is  
19 basically to use impermissible hindsight reconstruction.

20 As discussed above (regarding the rejection under 35 U.S.C. 102(b), the  
21 Applicant believes claims 5-7 are novel as they have been amended to recite  
limitations not found in the references. However, even if these claims were  
found to be anticipated by Kajita et al. they would still be patentable over

1 Lundberg, Peters, Adams and Sherwood, as they recite novel non-obvious  
2 limitations not taught or suggested by any of these references.

3 Therefore, the Applicant contends that claims 5-7 recite novel, non-obvious  
4 limitations over Lundberg, Peters, Adams and Sherwood. Applicant therefore  
5 respectfully requests that the rejection of claims 5-7 under 35 U.S.C. § 103(a)  
6 be removed and the claims allowed.

7  
8 III) (Ref. paragraph number 6 of the office action.) Claims 8-9 have been  
9 rejected under 35 U.S.C. § 103(a) as being obvious over Lundberg (U.S. Patent  
10 No. 5,295,686) in view of Peters (U.S. Patent No. 6,093,112), Adams (U.S.  
11 Patent No. 5,318,296) and Sherwood (U.S. Patent No. 5,480,145).

12 The arguments put forth above with respect to the rejection of claims 1-4  
13 and 15-17 in light of Lundberg, Peters and Adams, as well as claims 5-7 under  
14 those references in light of Sherwood, are incorporated herein by reference.  
15 Further, the characterization of the Lundberg, Peters, Adams and Sherwood  
16 patents put forth above is incorporated herein by reference. For the reasons put  
17 forth above with respect to the rejection of claims 5-7 under the same  
18 references, the Applicant respectfully disagrees that claims 8-9 are obvious in  
19 light of the cited references. Therefore, the Applicant respectfully requests that  
20 the rejection of claims 8-9 under 35 U.S.C. § 103(a) be removed and the claims  
21 allowed.

1 IV) (Ref. paragraph number 7 of the office action.) Claim 18 has been  
2 rejected under 35 U.S.C. § 103(a) as being obvious over Lundberg (U.S. Patent  
3 No. 5,295,686) in view of Peters (U.S. Patent No. 6,093,112), Adams (U.S.  
4 Patent No. 5,318,296) and Sherwood (U.S. Patent No. 5,480,145).

5 The arguments put forth above with respect to the rejection of claims 1-9  
6 and 15-17 under the same references are incorporated herein by reference, as  
7 well as the characterization of those references put forth above. The Applicant  
8 respectfully disagrees that claim 18 is obvious in light of the cited references.

9 The lie angle variance disclosed by Sherwood is 0.5 degrees between  
10 adjacent clubs (see Sherwood column 4 lines 35-38 (the sum of the angle  
11 between the sequential 3 and 4 irons and the sequential 4 and 5 irons is less  
12 than or equal to 1 degree, so the difference is less than or equal to 0.5 degree  
13 per sequential club)). Accordingly, per Sherwood's formula, the lie angle  
14 between alternating sequential clubs would be 1.0 degree, not between 1.2  
15 degrees and 2 degrees as claimed by the Applicant. As discusses above,  
16 neither Sherwood nor any of the other references provide a formula for  
17 determining a preferred lie angle. Therefore, the Applicant's selection of a lie  
18 angle of between 1.2 and 2 for alternating sequential clubs is novel and non-  
19 obvious over the references.

20 Therefore, the Applicant respectfully requests that the rejection of claim 18  
21 under 35 U.S.C. § 103(a) be removed and the claim allowed.

1 V) (Ref. paragraph number 8 of the office action.) Claim 19 has been  
2 rejected under 35 U.S.C. § 103(a) as being obvious over Lundberg (U.S. Patent  
3 No. 5,295,686) in view of Peters (U.S. Patent No. 6,093,112), Adams (U.S.  
4 Patent No. 5,318,296) and Sherwood (U.S. Patent No. 5,480,145).

5 The arguments put forth immediately above with respect to the rejection of  
6 claim 18 are incorporated herein by reference. For the reasons stated above,  
7 the Applicant believes that claim 19 is novel and non-obvious over the cited  
8 references since there is no teaching or suggestion in any of them to use a lie  
9 angle of about 1.5 degrees between alternating sequential clubs in a golf club  
10 set. The claimed lie angle is even more distal from the prior art than the lie  
11 angle of claim 18, and if claim 18 is allowable (as the Applicant contends), then  
12 surely claim 19 is allowable. Accordingly, the Applicant respectfully requests  
13 that the rejection of claim 19 under 35 U.S.C. § 103(a) be removed and the  
14 claim allowed.

15 VI) (Ref. paragraph number 9 of the office action.) Claims 10-12 have been  
16 rejected under 35 U.S.C. § 103(a) as being obvious over Kajita et al. (U.S.  
17 Patent No. 4,840,380) in view of Chen et al. (U.S. Patent No. 5,356,138).

18 The arguments put forth above with respect to the rejection of claims 1-9  
19 and 15-19 with respect to Kajita et al. under 35 U.S.C. § 102 are incorporated  
20 herein by reference, as well as the characterization of the Kajita patent.

21 The Applicant respectfully disagrees that claims 10-12 are obvious in light  
of the cited references. As a first point, the Applicant contends that claims 10-

1 12 are allowable as they depend from a base claim (claim 1) which is novel over  
2 Kajita et al. It is fundamental that a dependent claim cannot be obvious in light  
3 of a reference which does not anticipate the base claim. That is, since claim 1  
4 is novel over Kajita et al. (as the Applicant contends), then any claim which  
5 depends from claim 1 (such as claims 10-12) cannot be obvious in light of  
6 Kajita et al. either separately or in combination with any other references.  
7 Accordingly, it is improper to reject dependent claims 10-12 when the base  
claim (claim 1) is allowable.

8 Even if the Kajita reference was found to anticipate claim 1 (which the  
9 Applicant does not believe it does), the Applicant contends that claims 10-12  
10 are still non-obvious in light of the cited references. The Examiner contends  
11 that Chen teaches a club head weight variance of between "about 1 gram and  
12 45 grams less than the second adjacent golf club in the set", and cites column  
13 1, lines 19-21 and 35-50 as support. The Applicant respectfully disagrees. The  
14 largest weight variance shown in the cited table is the difference between the  
15 No. 1 club and the No. 2 club, being 17 grains (not grams), plus or minus 2  
16 grains, for a possible total weight variance of 19 grains. More so, the Applicant  
17 believes that the reported head weight of 223 grains for the 1-iron constitutes  
18 a typographical error. The actual weight shown for the 1-iron should be 233  
19 grains, not 223 grains. The variance between any other two clubs in the set  
20 is 7 grains. The addition of 7 grains to a 1-iron weight of 233 grains would  
21 bring the 2-iron weight to 240 grains, as shown in the table. This is consistent  
with the disclosure at column 1 lines 20-22 which states that the approximate

1 weight increase between club heads is 7 grains. Furthermore, no set of irons  
2 would ever have a weight variance between the 1-iron and the 2-iron which is  
3 over three times that of the weight variance between any of the subsequent  
4 irons. Such a drastic weight variance would result in extreme inconsistency by  
5 a golfer when moving from the 1-iron to the 2-iron, and then from the 2-iron to  
6 the 3-iron. Accordingly, it is the Applicant's belief that the only club head  
7 weight variance disclosed by Chen is "approximately 7 grains". Since one grain  
8 equals 0.0648 grams, this equates to a head weigh variance of 0.454 grams  
9 (and even in the case of a variance of 19 grains, 1.23 grams, and for 45 grains  
10 (assuming that the chart shown in column 1 is not erroneous), 2.9 grams. All  
11 of which are substantially less than the 8 to 12 grams claimed by the applicant.

12 Chen does not teach a formula for selecting a preferred club head weight  
13 variance. Further, the only variance taught by Chen is significantly less than the  
14 8-12 gram variance claimed by the Applicant. Since the club head weight  
15 claimed by the Applicant is not taught or suggested by any of the cited  
16 references, Applicant's claims 10-12 appear to be novel and non-obvious in  
17 light of the cited references. The Applicant therefore respectfully requests that  
18 the rejection of claims 10-12 as being obvious in light of Kajita and Chen be  
19 removed and the claims allowed.

20 VII) (Ref. paragraph number 10 of the office action.) Claim 13 has been  
21 rejected under 35 U.S.C. § 103(a) as being obvious over Kajita et al. (U.S.  
Patent No. 4,840,380) in view of Chen et al. (U.S. Patent No. 5,356,138).

1       The arguments put forth above with respect to the rejection of claims 10-12  
2 immediately above, as well as the above characterization of the cited references  
3 Kajita and Chen, are incorporated herein by reference.

4       The Applicant respectfully disagrees that claim 13 is obvious in light of the  
5 cited references. For the reasons stated above, the Applicant believes that  
6 claims 10-12 which claim a club head weight variance of between 8 grams and  
7 12 grams between alternating sequential clubs in a golf club set are novel and  
8 non-obvious over the cited references. The claimed head weight variance in  
9 claim 13 (which depends from claim 8) is for 9 grams between two additional  
10 sequential golf clubs in the set (i.e., "additional" beyond the first and second  
11 clubs of claim 8). Since the weight variance of 9 grams in claim 13 is between  
12 the weight variance of 8 to 12 grams of claim 10, and if claim 10 is allowable  
13 (as the Applicant contends), then surely claim 13 is allowable. Accordingly, the  
14 Applicant believes that claim 13 is novel and non-obvious in light of the cited  
15 references, and respectfully requests that the rejection of claim 13 under 35  
16 U.S.C. § 103(a) be removed and the claim allowed.

17       VIII) (Ref. paragraph number 11 of the office action.) Claim 14 has been  
18 rejected under 35 U.S.C. § 103(a) as being obvious over Kajita et al. (U.S.  
19 Patent No. 4,840,380) in view of Chen et al. (U.S. Patent No. 5,356,138).

20       The arguments put forth above with respect to the rejection of claim 13  
21 apply equally here for all of the same reasons. The Applicant therefore believes  
that claim 14 is novel and non-obvious in light of the cited references, and

1 respectfully requests that the rejection of claim 14 under 35 U.S.C. § 103(a)  
2 be removed and the claim allowed.

3  
4 IX) (Ref. paragraph number 12 of the office action.) Claim 20 has been  
5 rejected under 35 U.S.C. § 103(a) as being obvious over Kajita et al. (U.S.  
6 Patent No. 4,840,380) in view of Chen et al. (U.S. Patent No. 5,356,138).

7 The arguments put forth above with respect to the rejection of claims 10-14  
8 as being obvious over Kajita et al. in light of Chen, and the characterization of  
9 Kajita and Chen set forth above, are incorporated herein by reference.

10 The Applicant respectfully disagrees that claim 20 is obvious in light of the  
11 cited references. The club head weight stated in claim 20 is for at least about  
12 16 grams between alternating sequential clubs in a set. The equates to about  
13 8 grams between clubs in a full sequential set. As discussed above, none of  
14 the cited references teach or suggest a club head weight variance of either 8  
15 grams or 16 grams. The Applicant therefore believes that claim 20 is novel and  
16 non-obvious in light of the cited references, and respectfully requests that the  
17 rejection of claim 20 under 35 U.S.C. § 103(a) be removed and the claim  
18 allowed.

19 X) (Ref. paragraph number 13 of the office action.) Claim 21 has been  
20 rejected under 35 U.S.C. § 103(a) as being obvious over Kajita et al. (U.S.  
21 Patent No. 4,840,380) in view of Chen et al. (U.S. Patent No. 5,356,138).



1       The arguments put forth immediately above with respect to the rejection of  
2 claim 20 apply equally here for all of the same reasons. The Applicant therefore  
3 believes that claim 21 is novel and non-obvious in light of the cited references,  
4 and respectfully requests that the rejection of claim 21 under 35 U.S.C. §  
5 103(a) be removed and the claim allowed.

6  
7       XI) (Ref. paragraph number 14 of the office action.) Claims 10-12 have been  
8 rejected under 35 U.S.C. § 103(a) as being obvious over Lundberg (U.S. Patent  
9 No. 5,295,686) in view of Peters (U.S. Patent No. 6,093,112), Adams (U.S.  
10 Patent No. 5,318,296) and Nishizawa et al. (U.S. Patent No. 6,071,198).

11       The arguments put forth above with respect to the rejection of claims 1-4  
12 as being obvious in light of Lundberg, Peters and Adams, as well as the  
13 characterization of those patents, are incorporated herein by reference.

14       The Applicant respectfully disagrees that claims 10-12 are obvious in light  
15 of the cited references. The Applicant contends that claim 1 is allowable over  
16 Lundberg, Peters and Adams for the reasons stated above with respect to the  
17 rejection of claims 1-4 as being anticipated by these references (see paragraph  
18 II above). Accordingly, it is improper to reject dependent claims 10-12 when  
19 the base claim (claim 1) is allowable. The Applicant therefore believes that  
20 claims 10-12 are novel and non-obvious in light of the cited references, and  
21 respectfully requests that the rejection of these claims under 35 U.S.C. §  
103(a) be removed and the claims allowed.

1 XII) (Ref. paragraph number 15 of the office action.) Claim 13 has been  
2 rejected under 35 U.S.C. § 103(a) as being obvious over an unidentified  
3 reference(s) (possibly Lundberg (U.S. Patent No. 5,295,686) in view of Peters  
4 (U.S. Patent No. 6,093,112), Adams (U.S. Patent No. 5,318,296) and  
5 Sherwood (U.S. Patent No. 5,480,145)?) and further in view of Nishizawa et  
6 al. (U.S. Patent No. 6,071,198).

7 The arguments put forth immediately above with respect to the rejection of  
8 claims 10-12 under Lundberg, Peters, Adams and Nishizawa are incorporated  
9 herein by reference. For those same reasons, the Applicant respectfully  
10 disagrees that claim 13 is obvious in light of the cited references. Claim 1 is  
11 allowable over Lundberg, Peters and Adams for the reasons stated above with  
12 respect to the rejection of claims 1-4 as being anticipated by these references  
13 (see paragraph II above). Accordingly, it is improper to reject claim 13 (which  
14 ultimately depends from claim 1) when the base claim (claim 1) is allowable.  
15 The Applicant therefore believes that claim 13 is novel and non-obvious in light  
16 of the cited references, and respectfully requests that the rejection of this claim  
17 under 35 U.S.C. § 103(a) be removed and the claim allowed.

18 XIII) (Ref. paragraph number 16 of the office action.) Claim 14 has been  
19 rejected under 35 U.S.C. § 103(a) as being obvious over an unidentified  
20 reference(s) (possibly Lundberg (U.S. Patent No. 5,295,686) in view of Peters  
21 (U.S. Patent No. 6,093,112), Adams (U.S. Patent No. 5,318,296) and

1 Sherwood (U.S. Patent No. 5,480,145)?) and further in view of Nishizawa et  
2 al. (U.S. Patent No. 6,071,198).

3 The arguments put forth above with respect to the rejection of claims 10-12  
4 under Lundberg, Peters, Adams and Nishizawa are incorporated herein by  
5 reference. For those same reasons, the Applicant respectfully disagrees that  
6 claim 14 is obvious in light of the cited references. Claim 1 is allowable over  
7 Lundberg, Peters and Adams for the reasons stated above with respect to the  
8 rejection of claims 1-4 as being anticipated by these references (see paragraph  
9 II above). Accordingly, it is improper to reject claim 14 (which ultimately  
10 depends from claim 1) when the base claim (claim 1) is allowable. The  
11 Applicant therefore believes that claim 14 is novel and non-obvious in light of  
12 the cited references, and respectfully requests that the rejection of this claim  
13 under 35 U.S.C. § 103(a) be removed and the claim allowed.

14 Fee for Additional Claims

15 The fee for the additional four new dependent claims is included herewith.

16 Request for Extension of Time

17 The Applicant hereby requests a one (1) month extension of time under 37  
18 C.F.R. § 1.136 to respond to the Office action, to and through January 22,  
19 2001. It is noted that the Office action is dated September 20, 2000. Since  
20 January 20, 2001 is a Saturday, under 37 C.F.R. § 1.7 the period for response  
21

1 is extended to Monday, January 22, 2001 (including the one month extension).

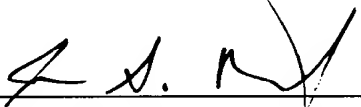
2 The extension fee under 37 C.F.R. § 1.17(a)(1) is enclosed herewith.

3  
4 Summary

5 The Applicant believes that the above response is a complete response to  
6 the Office action, and therefore requests timely allowance of the claims.

7 Respectfully submitted,  
8 John S. Reid

9 January 15, 2001

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